SEQUENCE LISTING

<110> Forschungszentrum Borstel

<120> Antisense oligonucleotides for treatment of
    proliferating cells

<130> P50303

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<141> 2001-02-26

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<151> 1998-05-22

<160> 3

<170> PatentIn Vers. 2.0

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Asp Glu Pro Val Arg Leu Lys His Gly Asp Val Ile Thr Ile Ile Asp
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445   450   455   460

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Leu Ser Lys Pro Glu Lys Leu Gly Thr Thr Ala Gly Gln Met Cys Ser
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Gly Leu Pro Gly Leu Ser Ser Val Asp Ile Asn Asn Phe Gly Asp Ser
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att aat gag agt gag gga ata cct ttg aaa aga agg cgt gtg tcc ttt   1720
Ile Asn Glu Ser Glu Gly Ile Pro Leu Lys Arg Arg Arg Val Ser Phe
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Met His Thr Pro Pro Val Leu Lys Lys Ile Ile Lys Glu Gln Pro Gln
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aag gaa gat ctt tca gga ata gct gaa atg ttc aag acc cca gtg aag   2488
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Cys Glu Ser Ser Pro Pro Glu Ser Ala Asp Thr Pro Thr Ser Thr Arg
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Val Ala Cys Lys Ser Ser Gln Pro Asp Leu Asp Lys Asn Pro Ala Ser
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His Thr His Thr Glu Pro Thr Gly Asp Gly Lys Ser Met Lys Ala Phe
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Ser Lys Arg Gln Leu Arg Thr Pro Lys Gly Lys Ser Glu Val Pro Glu
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Val Gly Glu Glu Lys Asp Ile Asn Thr Phe Leu Gly Thr Pro Val Gln
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1885   1890   1895   1900

ggc aaa gcc atg cac acg cct aaa gca gca gta ggt gaa gag aaa gac   5944
Gly Lys Ala Met His Thr Pro Lys Ala Ala Val Gly Glu Glu Lys Asp
    1905   1910   1915

atc aac aca ttt gtg ggg act cca gtg gag aaa ctg gac ctg cta gga   5992
Ile Asn Thr Phe Val Gly Thr Pro Val Glu Lys Leu Asp Leu Leu Gly
   1920   1925   1930

aat tta cct ggc agc aag aga cgg cca caa act cct aaa gaa aag gcc   6040
Asn Leu Pro Gly Ser Lys Arg Arg Pro Gln Thr Pro Lys Glu Lys Ala
  1935   1940   1945

aag gct cta gaa gat ctg gct ggc ttc aaa gag ctc ttc cag aca cca   6088
Lys Ala Leu Glu Asp Leu Ala Gly Phe Lys Glu Leu Phe Gln Thr Pro
  1950   1955   1960

ggt cac act gag gaa tca atg acc gat gac aaa atc aca gaa gta tcc   6136
Gly His Thr Glu Glu Ser Met Thr Asp Asp Lys Ile Thr Glu Val Ser
1965   1970   1975   1980

tgc aaa tct cca caa cca gac cca gtc aaa acc cca aca agc tcc aag   6184
Cys Lys Ser Pro Gln Pro Asp Pro Val Lys Thr Pro Thr Ser Ser Lys
         1985   1990   1995

caa cga ctc aag ata tcc ttg ggg aaa gta ggt gtg aaa gaa gag gtc   6232
Gln Arg Leu Lys Ile Ser Leu Gly Lys Val Gly Val Lys Glu Glu Val
         2000   2005   2010

cta cca gtc ggc aag ctc aca cag acg tca ggg aag acc aca cag aca   6280
Leu Pro Val Gly Lys Leu Thr Gln Thr Ser Gly Lys Thr Thr Gln Thr
         2015   2020   2025

cac aga gag aca gca gga gat gga aag agc atc aaa gcg ttt aag gaa   6328
His Arg Glu Thr Ala Gly Asp Gly Lys Ser Ile Lys Ala Phe Lys Glu
         2030   2035   2040

tct gca aag cag atg ctg gac cca gca aac tat gga act ggg atg gag   6376
Ser Ala Lys Gln Met Leu Asp Pro Ala Asn Tyr Gly Thr Gly Met Glu
2045   2050   2055   2060

agg tgg cca aga aca cct aag gaa gag gcc caa tca cta gaa gac ctg   6424
Arg Trp Pro Arg Thr Pro Lys Glu Glu Ala Gln Ser Leu Glu Asp Leu
         2065   2070   2075

gcc ggc ttc aaa gag ctc ttc cag aca cca gac cac act gag gaa tca   6472
Ala Gly Phe Lys Glu Leu Phe Gln Thr Pro Asp His Thr Glu Glu Ser
         2080   2085   2090

aca act gat gac aaa act acc aaa ata gcc tgc aaa tct cca cca cca   6520
Thr Thr Asp Asp Lys Thr Thr Lys Ile Ala Cys Lys Ser Pro Pro Pro
         2095   2100   2105

gaa tca atg gac act cca aca agc aca agg agg cgg ccc aaa aca cct   6568
Glu Ser Met Asp Thr Pro Thr Ser Thr Arg Arg Arg Pro Lys Thr Pro
         2110   2115   2120

ttg ggg aaa agg gat ata gtg gaa gag ctc tca gcc ctg aag cag ctc   6616
Leu Gly Lys Arg Asp Ile Val Glu Glu Leu Ser Ala Leu Lys Gln Leu
2125   2130   2135   2140

aca cag acc aca cac aca gac aaa gta cca gga gat gag gat aaa ggc   6664
Thr Gln Thr Thr His Thr Asp Lys Val Pro Gly Asp Glu Asp Lys Gly
         2145   2150   2155

atc aac gtg ttc agg gaa act gca aaa cag aaa ctg gac cca gca gca 6712
Ile Asn Val Phe Arg Glu Thr Ala Lys Gln Lys Leu Asp Pro Ala Ala
      2160   2165   2170

agt gta act ggt agc aag agg cag cca aga act cct aag gga aaa gcc 6760
Ser Val Thr Gly Ser Lys Arg Gln Pro Arg Thr Pro Lys Gly Lys Ala
      2175   2180   2185

caa ccc cta gaa gac ttg gct ggc ttg aaa gag ctc ttc cag aca cca 6808
Gln Pro Leu Glu Asp Leu Ala Gly Leu Lys Glu Leu Phe Gln Thr Pro
    2190   2195   2200

gta tgc act gac aag ccc acg act cac gag aaa act acc aaa ata gcc 6856
Val Cys Thr Asp Lys Pro Thr Thr His Glu Lys Thr Thr Lys Ile Ala
2205   2210   2215   2220

tgc aga tct cca caa cca gac cca gtg ggt acc cca aca atc ttc aag 6904
Cys Arg Ser Pro Gln Pro Asp Pro Val Gly Thr Pro Thr Ile Phe Lys
      2225   2230   2235

cca cag tcc aag aga agt ctc agg aaa gca gac gta gag gaa gaa tcc 6952
Pro Gln Ser Lys Arg Ser Leu Arg Lys Ala Asp Val Glu Glu Glu Ser
      2240   2245   2250

tta gca ctc agg aaa cga aca cca tca gta ggg aaa gct atg gac aca 7000
Leu Ala Leu Arg Lys Arg Thr Pro Ser Val Gly Lys Ala Met Asp Thr
      2255   2260   2265

ccc aaa cca gca gga ggt gat gag aaa gac atg aaa gca ttt atg gga 7048
Pro Lys Pro Ala Gly Gly Asp Glu Lys Asp Met Lys Ala Phe Met Gly
    2270   2275   2280

act cca gtg cag aaa ttg gac ctg cca gga aat tta cct ggc agc aaa 7096
Thr Pro Val Gln Lys Leu Asp Leu Pro Gly Asn Leu Pro Gly Ser Lys
2285   2290   2295   2300

aga tgg cca caa act cct aag gaa aag gcc cag gct cta gaa gac ctg 7144
Arg Trp Pro Gln Thr Pro Lys Glu Lys Ala Gln Ala Leu Glu Asp Leu
      2305   2310   2315

gct ggc ttc aaa gag ctc ttc cag aca cca ggc act gac aag ccc acg 7192
Ala Gly Phe Lys Glu Leu Phe Gln Thr Pro Gly Thr Asp Lys Pro Thr
      2320   2325   2330

act gat gag aaa act acc aaa ata gcc tgc aaa tct cca caa cca gac 7240
Thr Asp Glu Lys Thr Thr Lys Ile Ala Cys Lys Ser Pro Gln Pro Asp
      2335   2340   2345

cca gtg gac acc cca gca agc aca aag caa cgg ccc aag aga aac ctc   7288
Pro Val Asp Thr Pro Ala Ser Thr Lys Gln Arg Pro Lys Arg Asn Leu
   2350   2355   2360

agg aaa gca gac gta gag gaa gaa ttt tta gca ctc agg aaa cga aca   7336
Arg Lys Ala Asp Val Glu Glu Glu Phe Leu Ala Leu Arg Lys Arg Thr
2365   2370   2375   2380

cca tca gca ggc aaa gcc atg gac acc cca aaa cca gca gta agt gat   7384
Pro Ser Ala Gly Lys Ala Met Asp Thr Pro Lys Pro Ala Val Ser Asp
       2385   2390   2395

gag aaa aat atc aac aca ttt gtg gaa act cca gtg cag aaa ctg gac   7432
Glu Lys Asn Ile Asn Thr Phe Val Glu Thr Pro Val Gln Lys Leu Asp
       2400   2405   2410

ctg cta gga aat tta cct ggc agc aag aga cag cca cag act cct aag   7480
Leu Leu Gly Asn Leu Pro Gly Ser Lys Arg Gln Pro Gln Thr Pro Lys
       2415   2420   2425

gaa aag gct gag gct cta gag gac ctg gtt ggc ttc aaa gaa ctc ttc   7528
Glu Lys Ala Glu Ala Leu Glu Asp Leu Val Gly Phe Lys Glu Leu Phe
       2430   2435   2440

cag aca cca ggt cac act gag gaa tca atg act gat gac aaa atc aca   7576
Gln Thr Pro Gly His Thr Glu Glu Ser Met Thr Asp Asp Lys Ile Thr
2445   2450   2455   2460

gaa gta tcc tgt aaa tct cca cag cca gag tca ttc aaa acc tca aga   7624
Glu Val Ser Cys Lys Ser Pro Gln Pro Glu Ser Phe Lys Thr Ser Arg
       2465   2470   2475

agc tcc aag caa agg ctc aag ata ccc ctg gtg aaa gtg gac atg aaa   7672
Ser Ser Lys Gln Arg Leu Lys Ile Pro Leu Val Lys Val Asp Met Lys
       2480   2485   2490

gaa gag ccc cta gca gtc agc aag ctc aca cgg aca tca ggg gag act   7720
Glu Glu Pro Leu Ala Val Ser Lys Leu Thr Arg Thr Ser Gly Glu Thr
       2495   2500   2505

acg caa aca cac aca gag cca aca gga gat agt aag agc atc aaa gcg   7768
Thr Gln Thr His Thr Glu Pro Thr Gly Asp Ser Lys Ser Ile Lys Ala
       2510   2515   2520

ttt aag gag tct cca aag cag atc ctg gac cca gca gca agt gta act   7816
Phe Lys Glu Ser Pro Lys Gln Ile Leu Asp Pro Ala Ala Ser Val Thr
2525   2530   2535   2540

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ggt agc agg agg cag ctg aga act cgt aag gaa aag gcc cgt gct cta  7864
Gly Ser Arg Arg Gln Leu Arg Thr Arg Lys Glu Lys Ala Arg Ala Leu
        2545          2550          2555


gaa gac ctg gtt gac ttc aaa gag ctc ttc tca gca cca ggt cac act  7912
Glu Asp Leu Val Asp Phe Lys Glu Leu Phe Ser Ala Pro Gly His Thr
        2560          2565          2570


gaa gag tca atg act att gac aaa aac aca aaa att ccc tgc aaa tct  7960
Glu Glu Ser Met Thr Ile Asp Lys Asn Thr Lys Ile Pro Cys Lys Ser
        2575          2580          2585


ccc cca cca gaa cta aca gac act gcc acg agc aca aag aga tgc ccc  8008
Pro Pro Pro Glu Leu Thr Asp Thr Ala Thr Ser Thr Lys Arg Cys Pro
       2590          2595          2600


aag aca cgt ccc agg aaa gaa gta aaa gag gag ctc tca gca gtt gag  8056
Lys Thr Arg Pro Arg Lys Glu Val Lys Glu Glu Leu Ser Ala Val Glu
2605          2610          2615          2620


agg ctc acg caa aca tca ggg caa agc aca cac aca cac aaa gaa cca  8104
Arg Leu Thr Gln Thr Ser Gly Gln Ser Thr His Thr His Lys Glu Pro
        2625          2630          2635


gca agc ggt gat gag ggc atc aaa gta ttg aag caa cgt gca aag aag  8152
Ala Ser Gly Asp Glu Gly Ile Lys Val Leu Lys Gln Arg Ala Lys Lys
        2640          2645          2650


aaa cca aac cca gta gaa gag gaa ccc agc agg aga agg cca aga gca  8200
Lys Pro Asn Pro Val Glu Glu Glu Pro Ser Arg Arg Arg Pro Arg Ala
        2655          2660          2665


cct aag gaa aag gcc caa ccc ctg gaa gac ctg gcc ggc ttc aca gag  8248
Pro Lys Glu Lys Ala Gln Pro Leu Glu Asp Leu Ala Gly Phe Thr Glu
        2670          2675          2680


ctc tct gaa aca tca ggt cac act cag gaa tca ctg act gct ggc aaa  8296
Leu Ser Glu Thr Ser Gly His Thr Gln Glu Ser Leu Thr Ala Gly Lys
2685          2690          2695          2700


gcc act aaa ata ccc tgc gaa tct ccc cca cta gaa gtg gta gac acc  8344
Ala Thr Lys Ile Pro Cys Glu Ser Pro Pro Leu Glu Val Val Asp Thr
        2705          2710          2715


aca gca agc aca aag agg cat ctc agg aca cgt gtg cag aag gta caa  8392
Thr Ala Ser Thr Lys Arg His Leu Arg Thr Arg Val Gln Lys Val Gln
        2720          2725          2730
```

gta aaa gaa gag cct tca gca gtc aag ttc aca caa aca tca ggg gaa   8440
Val Lys Glu Glu Pro Ser Ala Val Lys Phe Thr Gln Thr Ser Gly Glu
    2735   2740   2745

acc acg gat gca gac aaa gaa cca gca ggt gaa gat aaa ggc atc aaa   8488
Thr Thr Asp Ala Asp Lys Glu Pro Ala Gly Glu Asp Lys Gly Ile Lys
  2750   2755   2760

gca ttg aag gaa tct gca aaa cag aca ccg gct cca gca gca agt gta   8536
Ala Leu Lys Glu Ser Ala Lys Gln Thr Pro Ala Pro Ala Ala Ser Val
2765   2770   2775   2780

act ggc agc agg aga cgg cca aga gca ccc agg gaa agt gcc caa gcc   8584
Thr Gly Ser Arg Arg Arg Pro Arg Ala Pro Arg Glu Ser Ala Gln Ala
      2785   2790   2795

ata gaa gac cta gct ggc ttc aaa gac cca gca gca ggt cac act gaa   8632
Ile Glu Asp Leu Ala Gly Phe Lys Asp Pro Ala Ala Gly His Thr Glu
    2800   2805   2810

gaa tca atg act gat gac aaa acc act aaa ata ccc tgc aaa tca tca   8680
Glu Ser Met Thr Asp Asp Lys Thr Thr Lys Ile Pro Cys Lys Ser Ser
    2815   2820   2825

cca gaa cta gaa gac acc gca aca agc tca aag aga cgg ccc agg aca   8728
Pro Glu Leu Glu Asp Thr Ala Thr Ser Ser Lys Arg Arg Pro Arg Thr
    2830   2835   2840

cgt gcc cag aaa gta gaa gtg aag gag gag ctg tta gca gtt ggc aag   8776
Arg Ala Gln Lys Val Glu Val Lys Glu Glu Leu Leu Ala Val Gly Lys
2845   2850   2855   2860

ctc aca caa acc tca ggg gag acc acg cac acc gac aaa gag ccg gta   8824
Leu Thr Gln Thr Ser Gly Glu Thr Thr His Thr Asp Lys Glu Pro Val
      2865   2870   2875

ggt gag ggc aaa ggc acg aaa gca ttt aag caa cct gca aag cgg aac   8872
Gly Glu Gly Lys Gly Thr Lys Ala Phe Lys Gln Pro Ala Lys Arg Asn
    2880   2885   2890

gtg gac gca gaa gat gta att ggc agc agg aga cag cca aga gca cct   8920
Val Asp Ala Glu Asp Val Ile Gly Ser Arg Arg Gln Pro Arg Ala Pro
    2895   2900   2905

aag gaa aag gcc caa ccc ctg gaa gac ctg gcc agc ttc caa gag ctc   8968
Lys Glu Lys Ala Gln Pro Leu Glu Asp Leu Ala Ser Phe Gln Glu Leu
    2910   2915   2920

tct caa aca cca ggc cac act gag gaa ctg gca aat ggt gct gct gat   9016
Ser Gln Thr Pro Gly His Thr Glu Glu Leu Ala Asn Gly Ala Ala Asp
2925   2930   2935   2940

agc ttt aca agc gct cca aag caa aca cct gac agt gga aaa cct cta   9064
Ser Phe Thr Ser Ala Pro Lys Gln Thr Pro Asp Ser Gly Lys Pro Leu
        2945   2950   2955

aaa ata tcc aga aga gtt ctt cgg gcc cct aaa gta gaa ccc gtg gga   9112
Lys Ile Ser Arg Arg Val Leu Arg Ala Pro Lys Val Glu Pro Val Gly
        2960   2965   2970

gac gtg gta agc acc aga gac cct gta aaa tca caa agc aaa agc aac   9160
Asp Val Val Ser Thr Arg Asp Pro Val Lys Ser Gln Ser Lys Ser Asn
        2975   2980   2985

act tcc ctg ccc cca ctg ccc ttc aag agg gga ggt ggc aaa gat gga   9208
Thr Ser Leu Pro Pro Leu Pro Phe Lys Arg Gly Gly Gly Lys Asp Gly
        2990   2995   3000

agc gtc acg gga acc aag agg ctg cgc tgc atg cca gca cca gag gaa   9256
Ser Val Thr Gly Thr Lys Arg Leu Arg Cys Met Pro Ala Pro Glu Glu
3005   3010   3015   3020   .

att gtg gag gag ctg cca gcc agc aag aag cag agg gtt gct ccc agg   9304
Ile Val Glu Glu Leu Pro Ala Ser Lys Lys Gln Arg Val Ala Pro Arg
        3025   3030   3035

gca aga ggc aaa tca tcc gaa ccc gtg gtc atc atg aag aga agt ttg   9352
Ala Arg Gly Lys Ser Ser Glu Pro Val Val Ile Met Lys Arg Ser Leu
        3040   3045   3050

agg act tct gca aaa aga att gaa cct gcg gaa gag ctg aac agc aac   9400
Arg Thr Ser Ala Lys Arg Ile Glu Pro Ala Glu Glu Leu Asn Ser Asn
        3055   3060   3065

gac atg aaa acc aac aaa gag gaa cac aaa tta caa gac tcg gtc cct   9448
Asp Met Lys Thr Asn Lys Glu Glu His Lys Leu Gln Asp Ser Val Pro
        3070   3075   3080

gaa aat aag gga ata tcc ctg cgc tcc aga cgc caa gat aag act gag   9496
Glu Asn Lys Gly Ile Ser Leu Arg Ser Arg Arg Gln Asp Lys Thr Glu
3085   3090   3095   3100

gca gaa cag caa ata act gag gtc ttt gta tta gca gaa aga ata gaa   9544
Ala Glu Gln Gln Ile Thr Glu Val Phe Val Leu Ala Glu Arg Ile Glu
        3105   3110   3115

ata aac aga aat gaa aag aag ccc atg aag acc tcc cca gag atg gac 9592
Ile Asn Arg Asn Glu Lys Lys Pro Met Lys Thr Ser Pro Glu Met Asp
      3120   3125   3130

att cag aat cca gat gat gga gcc cgg aaa ccc ata cct aga gac aaa 9640
Ile Gln Asn Pro Asp Asp Gly Ala Arg Lys Pro Ile Pro Arg Asp Lys
      3135   3140   3145

gtc act gag aac aaa agg tgc ttg agg tct gct aga cag aat gag agc 9688
Val Thr Glu Asn Lys Arg Cys Leu Arg Ser Ala Arg Gln Asn Glu Ser
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tcc cag cct aag gtg gca gag gag agc gga ggg cag aag agt gcg aag 9736
Ser Gln Pro Lys Val Ala Glu Glu Ser Gly Gly Gln Lys Ser Ala Lys
3165   3170   3175   3180

gtt ctc atg cag aat cag aaa ggg aaa gga gaa gca gga aat tca gac 9784
Val Leu Met Gln Asn Gln Lys Gly Lys Gly Glu Ala Gly Asn Ser Asp
      3185   3190   3195

tcc atg tgc ctg aga tca aga aag aca aaa agc cag cct gca gca agc 9832
Ser Met Cys Leu Arg Ser Arg Lys Thr Lys Ser Gln Pro Ala Ala Ser
      3200   3205   3210

act ttg gag agc aaa tct gtg cag aga gta acg cgg agt gtc aag agg 9880
Thr Leu Glu Ser Lys Ser Val Gln Arg Val Thr Arg Ser Val Lys Arg
     3215   3220   3225

tgt gca gaa aat cca aag aag gct gag gac aat gtg tgt gtc aag aaa 9928
Cys Ala Glu Asn Pro Lys Lys Ala Glu Asp Asn Val Cys Val Lys Lys
     3230   3235   3240

ata aca acc aga agt cat agg gac agt gaa gat att tgacagaaaa   9974
Ile Thr Thr Arg Ser His Arg Asp Ser Glu Asp Ile
3245   3250   3255

atcgaactgg gaaaaatata ataaagttag ttttgtgata agttctagtg cagttttgt 10034

cataaattac aagtgaattc tgtaagtaag gctgtcagtc tgcttaaggg aagaaaactt 10094

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Gly Pro His Phe Pro Leu Ser Leu Ser Thr Cys Leu Phe Gly Arg Gly
        20   25   30

Ile Glu Cys Asp Ile Arg Ile Gln Leu Pro Val Val Ser Lys Gln His
        35   40   45

Cys Lys Val Glu Ile His Glu Gln Glu Ala Ile Leu His Asn Phe Ser
    50   55   60

Ser Thr Asn Pro Thr Gln Val Asn Gly Ser Val Ile Asp Glu Pro Val
65   70   75   80

Arg Leu Lys His Gly Asp Val Ile Thr Ile Ile Asp Arg Ser Phe Arg

```
        85              90              95
```

Tyr Glu Asn Glu Ser Leu Gln Asn Gly Arg Lys Ser Thr Glu Phe Pro
```
        100             105             110
```

Arg Lys Ile Arg Glu Gln Glu Pro Ala Arg Arg Val Ser Arg Ser Ser
```
        115             120             125
```

Phe Ser Ser Asp Pro Asp Glu Lys Ala Gln Asp Ser Lys Ala Tyr Ser
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        130             135             140
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Lys Ile Thr Glu Gly Lys Val Ser Gly Asn Pro Gln Val His Ile Lys
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        145             150             155             160
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Asn Val Lys Glu Asp Ser Thr Ala Asp Asp Ser Lys Asp Ser Val Ala
```
            165             170             175
```

Gln Gly Thr Thr Asn Val His Ser Ser Glu His Ala Gly Arg Asn Gly
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            180             185             190
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Arg Asn Ala Ala Asp Pro Ile Ser Gly Asp Phe Lys Glu Ile Ser Ser
```
            195             200             205
```

Val Lys Leu Val Ser Arg Tyr Gly Glu Leu Lys Ser Val Pro Thr Thr
```
        210             215             220
```

Gln Cys Leu Asp Asn Ser Lys Lys Asn Glu Ser Pro Phe Trp Lys Leu
```
    225             230             235             240
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Tyr Glu Ser Val Lys Lys Glu Leu Asp Val Lys Ser Gln Lys Glu Asn
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            245             250             255
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Val Leu Gln Tyr Cys Arg Lys Ser Gly Leu Gln Thr Asp Tyr Ala Thr
```
            260             265             270
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Glu Lys Glu Ser Ala Asp Gly Leu Gln Gly Glu Thr Gln Leu Leu Val
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            275             280             285
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Ser Arg Lys Ser Arg Pro Lys Ser Gly Gly Ser Gly His Ala Val Ala
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        290             295             300
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Glu Pro Ala Ser Pro Glu Gln Glu Leu Asp Gln Asn Lys Gly Lys Gly
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    305             310             315             320
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Arg Asp Val Glu Ser Val Gln Thr Pro Ser Lys Ala Val Gly Ala Ser
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            325             330             335
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Phe Pro Leu Tyr Glu Pro Ala Lys Met Lys Thr Pro Val Gln Tyr Ser
     340   345   350

Gln Gln Gln Asn Ser Pro Gln Lys His Lys Asn Lys Asp Leu Tyr Thr
     355   360   365

Thr Gly Arg Arg Glu Ser Val Asn Leu Gly Lys Ser Glu Gly Phe Lys
    370   375   380

Ala Gly Asp Lys Thr Leu Thr Pro Arg Lys Leu Ser Thr Arg Asn Arg
385   390   395   400

Thr Pro Ala Lys Val Glu Asp Ala Ala Asp Ser Ala Thr Lys Pro Glu
       405   410   415

Asn Leu Ser Ser Lys Thr Arg Gly Ser Ile Pro Thr Asp Val Glu Val
    420   425   430

Leu Pro Thr Glu Thr Glu Ile His Asn Glu Pro Phe Leu Thr Leu Trp
    435   440   445

Leu Thr Gln Val Glu Arg Lys Ile Gln Lys Asp Ser Leu Ser Lys Pro
    450   455   460

Glu Lys Leu Gly Thr Thr Ala Gly Gln Met Cys Ser Gly Leu Pro Gly
465   470   475   480

Leu Ser Ser Val Asp Ile Asn Asn Phe Gly Asp Ser Ile Asn Glu Ser
    485   490   495

Glu Gly Ile Pro Leu Lys Arg Arg Arg Val Ser Phe Gly Gly His Leu
    500   505   510

Arg Pro Glu Leu Phe Asp Glu Asn Leu Pro Pro Asn Thr Pro Leu Lys
    515   520   525

Arg Gly Glu Ala Pro Thr Lys Arg Lys Ser Leu Val Met His Thr Pro
    530   535   540

Pro Val Leu Lys Lys Ile Ile Lys Glu Gln Pro Gln Pro Ser Gly Lys
545   550   555   560

Gln Glu Ser Gly Ser Glu Ile His Val Glu Val Lys Ala Gln Ser Leu
    565   570   575

Val Ile Ser Pro Pro Ala Pro Ser Pro Arg Lys Thr Pro Val Ala Ser
    580   585   590

Asp Gln Arg Arg Arg Ser Cys Lys Thr Ala Pro Ala Ser Ser Ser Lys
   595   600   605

Ser Gln Thr Glu Val Pro Lys Arg Gly Gly Glu Arg Val Ala Thr Cys
   610   615   620

Leu Gln Lys Arg Val Ser Ile Ser Arg Ser Gln His Asp Ile Leu Gln
625   630   635   640

Met Ile Cys Ser Lys Arg Arg Ser Gly Ala Ser Glu Ala Asn Leu Ile
      645   650   655

Val Ala Lys Ser Trp Ala Asp Val Val Lys Leu Gly Ala Lys Gln Thr
     660   665   670

Gln Thr Lys Val Ile Lys His Gly Pro Gln Arg Ser Met Asn Lys Arg
    675   680   685

Gln Arg Arg Pro Ala Thr Pro Lys Lys Pro Val Gly Glu Val His Ser
   690   695   700

Gln Phe Ser Thr Gly His Ala Asn Ser Pro Cys Thr Ile Ile Ile Gly
705   710   715   720

Lys Ala His Thr Glu Lys Val His Val Pro Ala Arg Pro Tyr Arg Val
     725   730   735

Leu Asn Asn Phe Ile Ser Asn Gln Lys Met Asp Phe Lys Glu Asp Leu
    740   745   750

Ser Gly Ile Ala Glu Met Phe Lys Thr Pro Val Lys Glu Gln Pro Gln
   755   760   765

Leu Thr Ser Thr Cys His Ile Ala Ile Ser Asn Ser Glu Asn Leu Leu
   770   775   780

Gly Lys Gln Phe Gln Gly Thr Asp Ser Gly Glu Glu Pro Leu Leu Pro
785   790   795   800

Thr Ser Glu Ser Phe Gly Gly Asn Val Phe Phe Ser Ala Gln Asn Ala
     805   810   815

Ala Lys Gln Pro Ser Asp Lys Cys Ser Ala Ser Pro Pro Leu Arg Arg
     820   825   830

Gln Cys Ile Arg Glu Asn Gly Asn Val Ala Lys Thr Pro Arg Asn Thr
     835   840   845

Tyr Lys Met Thr Ser Leu Glu Thr Lys Thr Ser Asp Thr Glu Thr Glu
  850   855   860

Pro Ser Lys Thr Val Ser Thr Val Asn Arg Ser Gly Arg Ser Thr Glu
865   870   875   880

Phe Arg Asn Ile Gln Lys Leu Pro Val Glu Ser Lys Ser Glu Glu Thr
      885   890   895

Asn Thr Glu Ile Val Glu Cys Ile Leu Lys Arg Gly Gln Lys Ala Thr
    900   905   910

Leu Leu Gln Gln Arg Arg Glu Gly Glu Met Lys Glu Ile Glu Arg Pro
    915   920   925

Phe Glu Thr Tyr Lys Glu Asn Ile Glu Leu Lys Glu Asn Asp Glu Lys
  930   935   940

Met Lys Ala Met Lys Arg Ser Arg Thr Trp Gly Gln Lys Cys Ala Pro
945   950   955   960

Met Ser Asp Leu Thr Asp Leu Lys Ser Leu Pro Asp Thr Glu Leu Met
    965   970   975

Lys Asp Thr Ala Arg Gly Gln Asn Leu Leu Gln Thr Gln Asp His Ala
    980   985   990

Lys Ala Pro Lys Ser Glu Lys Gly Lys Ile Thr Lys Met Pro Cys Gln
    995   1000   1005

Ser Leu Gln Pro Glu Pro Ile Asn Thr Pro Thr His Thr Lys Gln Gln
  1010   1015   1020

Leu Lys Ala Ser Leu Gly Lys Val Gly Val Lys Glu Glu Leu Leu Ala
1025   1030   1035   1040

Val Gly Lys Phe Thr Arg Thr Ser Gly Glu Thr Thr His Thr His Arg
    1045   1050   1055

Glu Pro Ala Gly Asp Gly Lys Ser Ile Arg Thr Phe Lys Glu Ser Pro
    1060   1065   1070

Lys Gln Ile Leu Asp Pro Ala Ala Arg Val Thr Gly Met Lys Lys Trp
  1075   1080   1085

Pro Arg Thr Pro Lys Glu Glu Ala Gln Ser Leu Glu Asp Leu Ala Gly
  1090   1095   1100

Phe Lys Glu Leu Phe Gln Thr Pro Gly Pro Ser Glu Glu Ser Met Thr
1105   1110   1115   1120

Asp Glu Lys Thr Thr Lys Ile Ala Cys Lys Ser Pro Pro Pro Glu Ser
          1125   1130   1135

Val Asp Thr Pro Thr Ser Thr Lys Gln Trp Pro Lys Arg Ser Leu Arg
          1140   1145   1150

Lys Ala Asp Val Glu Glu Glu Phe Leu Ala Leu Arg Lys Leu Thr Pro
          1155   1160   1165

Ser Ala Gly Lys Ala Met Leu Thr Pro Lys Pro Ala Gly Gly Asp Glu
        1170   1175   1180

Lys Asp Ile Lys Ala Phe Met Gly Thr Pro Val Gln Lys Leu Asp Leu
1185   1190   1195   1200

Ala Gly Thr Leu Pro Gly Ser Lys Arg Gln Leu Gln Thr Pro Lys Glu
          1205   1210   1215

Lys Ala Gln Ala Leu Glu Asp Leu Ala Gly Phe Lys Glu Leu Phe Gln
          1220   1225   1230

Thr Pro Gly His Thr Glu Glu Leu Val Ala Ala Gly Lys Thr Thr Lys
          1235   1240   1245

Ile Pro Cys Asp Ser Pro Gln Ser Asp Pro Val Asp Thr Pro Thr Ser
        1250   1255   1260

Thr Lys Gln Arg Pro Lys Arg Ser Ile Arg Lys Ala Asp Val Glu Gly
1265   1270   1275   1280

Glu Leu Leu Ala Cys Arg Asn Leu Met Pro Ser Ala Gly Lys Ala Met
          1285   1290   1295

His Thr Pro Lys Pro Ser Val Gly Glu Glu Lys Asp Ile Ile Ile Phe
          1300   1305   1310

Val Gly Thr Pro Val Gln Lys Leu Asp Leu Thr Glu Asn Leu Thr Gly
        1315   1320   1325

Ser Lys Arg Arg Pro Gln Thr Pro Lys Glu Glu Ala Gln Ala Leu Glu
        1330   1335   1340

Asp Leu Thr Gly Phe Lys Glu Leu Phe Gln Thr Pro Gly His Thr Glu
1345   1350   1355   1360

Glu Ala Val Ala Ala Gly Lys Thr Thr Lys Met Pro Cys Glu Ser Ser
        1365   1370   1375

Pro Pro Glu Ser Ala Asp Thr Pro Thr Ser Thr Arg Arg Gln Pro Lys
        1380   1385   1390

Thr Pro Leu Glu Lys Arg Asp Val Gln Lys Glu Leu Ser Ala Leu Lys
        1395   1400   1405

Lys Leu Thr Gln Thr Ser Gly Glu Thr Thr His Thr Asp Lys Val Pro
      1410   1415   1420

Gly Gly Glu Asp Lys Ser Ile Asn Ala Phe Arg Glu Thr Ala Lys Gln
1425   1430   1435   1440

Lys Leu Asp Pro Ala Ala Ser Val Thr Gly Ser Lys Arg His Pro Lys
        1445   1450   1455

Thr Lys Glu Lys Ala Gln Pro Leu Glu Asp Leu Ala Gly Trp Lys Glu
        1460   1465   1470

Leu Phe Gln Thr Pro Val Cys Thr Asp Lys Pro Thr Thr His Glu Lys
        1475   1480   1485

Thr Thr Lys Ile Ala Cys Arg Ser Gln Pro Asp Pro Val Asp Thr Pro
      1490   1495   1500

Thr Ser Ser Lys Pro Gln Ser Lys Arg Ser Leu Arg Lys Val Asp Val
1505   1510   1515   1520

Glu Glu Glu Phe Phe Ala Leu Arg Lys Arg Thr Pro Ser Ala Gly Lys
        1525   1530   1535

Ala Met His Thr Pro Lys Pro Ala Val Ser Gly Glu Lys Asn Ile Tyr
      1540   1545   1550

Ala Phe Met Gly Thr Pro Val Gln Lys Leu Asp Leu Thr Glu Asn Leu
      1555   1560   1565

Thr Gly Ser Lys Arg Arg Leu Gln Thr Pro Lys Glu Lys Ala Gln Ala
    1570   1575   1580

Leu Glu Asp Leu Ala Gly Phe Lys Glu Leu Phe Gln Thr Arg Gly His
1585   1590   1595   1600

Thr Glu Glu Ser Met Thr Asn Asp Lys Thr Ala Lys Val Ala Cys Lys
        1605   1610   1615

Ser Ser Gln Pro Asp Leu Asp Lys Asn Pro Ala Ser Ser Lys Arg Arg
     1620   1625   1630

Leu Lys Thr Ser Leu Gly Lys Val Gly Val Lys Glu Glu Leu Leu Ala
     1635   1640   1645

Val Gly Lys Leu Thr Gln Thr Ser Gly Glu Thr Thr His Thr His Thr
    1650   1655   1660

Glu Pro Thr Gly Asp Gly Lys Ser Met Lys Ala Phe Met Glu Ser Pro
1665   1670   1675   1680

Lys Gln Ile Leu Asp Ser Ala Ala Ser Leu Thr Gly Ser Lys Arg Gln
     1685   1690   1695

Leu Arg Thr Pro Lys Gly Lys Ser Glu Val Pro Glu Asp Leu Ala Gly
     1700   1705   1710

Phe Ile Glu Leu Phe Gln Thr Pro Ser His Thr Lys Glu Ser Met Thr
     1715   1720   1725

Asn Glu Lys Thr Thr Lys Val Ser Tyr Arg Ala Ser Gln Pro Asp Leu
    1730   1735   1740

Val Asp Thr Pro Thr Ser Ser Lys Pro Gln Pro Lys Arg Ser Leu Arg
1745   1750   1755   1760

Lys Ala Asp Thr Glu Glu Glu Phe Leu Ala Phe Arg Lys Gln Thr Pro
     1765   1770   1775

Ser Ala Gly Lys Ala Met His Thr Pro Lys Pro Ala Val Gly Glu Glu
     1780   1785   1790

Lys Asp Ile Asn Thr Phe Leu Gly Thr Pro Val Gln Lys Leu Asp Gln
     1795   1800   1805

Pro Gly Asn Leu Pro Gly Ser Asn Arg Arg Leu Gln Thr Arg Lys Glu
     1810   1815   1820

Lys Ala Gln Ala Leu Glu Glu Leu Thr Gly Phe Arg Glu Leu Phe Gln
1825   1830   1835   1840

Thr Pro Cys Thr Asp Asn Pro Thr Ala Asp Glu Lys Thr Thr Lys Lys
     1845   1850   1855

Ile Leu Cys Lys Ser Pro Gln Ser Asp Pro Ala Asp Thr Pro Thr Asn
     1860   1865   1870

Thr Lys Gln Arg Pro Lys Arg Ser Leu Lys Lys Ala Asp Val Glu Glu
    1875   1880   1885

Glu Phe Leu Ala Phe Arg Lys Leu Thr Pro Ser Ala Gly Lys Ala Met
  1890   1895   1900

His Thr Pro Lys Ala Ala Val Gly Glu Glu Lys Asp Ile Asn Thr Phe
1905   1910   1915   1920

Val Gly Thr Pro Val Glu Lys Leu Asp Leu Leu Gly Asn Leu Pro Gly
    1925   1930   1935

Ser Lys Arg Arg Pro Gln Thr Pro Lys Glu Lys Ala Lys Ala Leu Glu
    1940   1945   1950

Asp Leu Ala Gly Phe Lys Glu Leu Phe Gln Thr Pro Gly His Thr Glu
    1955   1960   1965

Glu Ser Met Thr Asp Asp Lys Ile Thr Glu Val Ser Cys Lys Ser Pro
  1970   1975   1980

Gln Pro Asp Pro Val Lys Thr Pro Thr Ser Ser Lys Gln Arg Leu Lys
1985   1990   1995   2000

Ile Ser Leu Gly Lys Val Gly Val Lys Glu Glu Val Leu Pro Val Gly
    2005   2010   2015

Lys Leu Thr Gln Thr Ser Gly Lys Thr Thr Gln Thr His Arg Glu Thr
    2020   2025   2030

Ala Gly Asp Gly Lys Ser Ile Lys Ala Phe Lys Glu Ser Ala Lys Gln
    2035   2040   2045

Met Leu Asp Pro Ala Asn Tyr Gly Thr Gly Met Glu Arg Trp Pro Arg
  2050   2055   2060

Thr Pro Lys Glu Glu Ala Gln Ser Leu Glu Asp Leu Ala Gly Phe Lys
2065   2070   2075   2080

Glu Leu Phe Gln Thr Pro Asp His Thr Glu Glu Ser Thr Thr Asp Asp
    2085   2090   2095

Lys Thr Thr Lys Ile Ala Cys Lys Ser Pro Pro Pro Glu Ser Met Asp
    2100   2105   2110

Thr Pro Thr Ser Thr Arg Arg Arg Pro Lys Thr Pro Leu Gly Lys Arg
    2115   2120   2125

Asp Ile Val Glu Glu Leu Ser Ala Leu Lys Gln Leu Thr Gln Thr Thr
  2130   2135   2140

His Thr Asp Lys Val Pro Gly Asp Glu Asp Lys Gly Ile Asn Val Phe
2145   2150   2155   2160

Arg Glu Thr Ala Lys Gln Lys Leu Asp Pro Ala Ala Ser Val Thr Gly
      2165   2170   2175

Ser Lys Arg Gln Pro Arg Thr Pro Lys Gly Lys Ala Gln Pro Leu Glu
    2180   2185   2190

Asp Leu Ala Gly Leu Lys Glu Leu Phe Gln Thr Pro Val Cys Thr Asp
    2195   2200   2205

Lys Pro Thr Thr His Glu Lys Thr Thr Lys Ile Ala Cys Arg Ser Pro
  2210   2215   2220

Gln Pro Asp Pro Val Gly Thr Pro Thr Ile Phe Lys Pro Gln Ser Lys
2225   2230   2235   2240

Arg Ser Leu Arg Lys Ala Asp Val Glu Glu Glu Ser Leu Ala Leu Arg
    2245   2250   2255

Lys Arg Thr Pro Ser Val Gly Lys Ala Met Asp Thr Pro Lys Pro Ala
    2260   2265   2270

Gly Gly Asp Glu Lys Asp Met Lys Ala Phe Met Gly Thr Pro Val Gln
    2275   2280   2285

Lys Leu Asp Leu Pro Gly Asn Leu Pro Gly Ser Lys Arg Trp Pro Gln
  2290   2295   2300

Thr Pro Lys Glu Lys Ala Gln Ala Leu Glu Asp Leu Ala Gly Phe Lys
2305   2310   2315   2320

Glu Leu Phe Gln Thr Pro Gly Thr Asp Lys Pro Thr Thr Asp Glu Lys
    2325   2330   2335

Thr Thr Lys Ile Ala Cys Lys Ser Pro Gln Pro Asp Pro Val Asp Thr
    2340   2345   2350

Pro Ala Ser Thr Lys Gln Arg Pro Lys Arg Asn Leu Arg Lys Ala Asp
    2355   2360   2365

Val Glu Glu Glu Phe Leu Ala Leu Arg Lys Arg Thr Pro Ser Ala Gly
  2370   2375   2380

Lys Ala Met Asp Thr Pro Lys Pro Ala Val Ser Asp Glu Lys Asn Ile
2385   2390   2395   2400

Asn Thr Phe Val Glu Thr Pro Val Gln Lys Leu Asp Leu Leu Gly Asn
        2405   2410   2415

Leu Pro Gly Ser Lys Arg Gln Pro Gln Thr Pro Lys Glu Lys Ala Glu
     2420   2425   2430

Ala Leu Glu Asp Leu Val Gly Phe Lys Glu Leu Phe Gln Thr Pro Gly
     2435   2440   2445

His Thr Glu Glu Ser Met Thr Asp Asp Lys Ile Thr Glu Val Ser Cys
   2450   2455   2460

Lys Ser Pro Gln Pro Glu Ser Phe Lys Thr Ser Arg Ser Ser Lys Gln
2465   2470   2475   2480

Arg Leu Lys Ile Pro Leu Val Lys Val Asp Met Lys Glu Glu Pro Leu
     2485   2490   2495

Ala Val Ser Lys Leu Thr Arg Thr Ser Gly Glu Thr Thr Gln Thr His
     2500   2505   2510

Thr Glu Pro Thr Gly Asp Ser Lys Ser Ile Lys Ala Phe Lys Glu Ser
     2515   2520   2525

Pro Lys Gln Ile Leu Asp Pro Ala Ala Ser Val Thr Gly Ser Arg Arg
   2530   2535   2540

Gln Leu Arg Thr Arg Lys Glu Lys Ala Arg Ala Leu Glu Asp Leu Val
2545   2550   2555   2560

Asp Phe Lys Glu Leu Phe Ser Ala Pro Gly His Thr Glu Glu Ser Met
     2565   2570   2575

Thr Ile Asp Lys Asn Thr Lys Ile Pro Cys Lys Ser Pro Pro Pro Glu
     2580   2585   2590

Leu Thr Asp Thr Ala Thr Ser Thr Lys Arg Cys Pro Lys Thr Arg Pro
     2595   2600   2605

Arg Lys Glu Val Lys Glu Glu Leu Ser Ala Val Glu Arg Leu Thr Gln
   2610   2615   2620

Thr Ser Gly Gln Ser Thr His Thr His Lys Glu Pro Ala Ser Gly Asp
2625   2630   2635   2640

Glu Gly Ile Lys Val Leu Lys Gln Arg Ala Lys Lys Lys Pro Asn Pro
            2645   2650   2655

Val Glu Glu Glu Pro Ser Arg Arg Arg Pro Arg Ala Pro Lys Glu Lys
            2660   2665   2670

Ala Gln Pro Leu Glu Asp Leu Ala Gly Phe Thr Glu Leu Ser Glu Thr
      2675   2680   2685

Ser Gly His Thr Gln Glu Ser Leu Thr Ala Gly Lys Ala Thr Lys Ile
   2690   2695   2700

Pro Cys Glu Ser Pro Pro Leu Glu Val Val Asp Thr Thr Ala Ser Thr
2705   2710   2715   2720

Lys Arg His Leu Arg Thr Arg Val Gln Lys Val Gln Val Lys Glu Glu
            2725   2730   2735

Pro Ser Ala Val Lys Phe Thr Gln Thr Ser Gly Glu Thr Thr Asp Ala
            2740   2745   2750

Asp Lys Glu Pro Ala Gly Glu Asp Lys Gly Ile Lys Ala Leu Lys Glu
            2755   2760   2765

Ser Ala Lys Gln Thr Pro Ala Pro Ala Ala Ser Val Thr Gly Ser Arg
   2770   2775   2780

Arg Arg Pro Arg Ala Pro Arg Glu Ser Ala Gln Ala Ile Glu Asp Leu
2785   2790   2795   2800

Ala Gly Phe Lys Asp Pro Ala Ala Gly His Thr Glu Glu Ser Met Thr
            2805   2810   2815

Asp Asp Lys Thr Thr Lys Ile Pro Cys Lys Ser Ser Pro Glu Leu Glu
            2820   2825   2830

Asp Thr Ala Thr Ser Ser Lys Arg Arg Pro Arg Thr Arg Ala Gln Lys
            2835   2840   2845

Val Glu Val Lys Glu Glu Leu Leu Ala Val Gly Lys Leu Thr Gln Thr
   2850   2855   2860

Ser Gly Glu Thr Thr His Thr Asp Lys Glu Pro Val Gly Glu Gly Lys
2865   2870   2875   2880

Gly Thr Lys Ala Phe Lys Gln Pro Ala Lys Arg Asn Val Asp Ala Glu
            2885   2890   2895

Asp Val Ile Gly Ser Arg Arg Gln Pro Arg Ala Pro Lys Glu Lys Ala
    2900   2905   2910

Gln Pro Leu Glu Asp Leu Ala Ser Phe Gln Glu Leu Ser Gln Thr Pro
    2915   2920   2925

Gly His Thr Glu Glu Leu Ala Asn Gly Ala Ala Asp Ser Phe Thr Ser
  2930   2935   2940

Ala Pro Lys Gln Thr Pro Asp Ser Gly Lys Pro Leu Lys Ile Ser Arg
2945   2950   2955   2960

Arg Val Leu Arg Ala Pro Lys Val Glu Pro Val Gly Asp Val Val Ser
      2965   2970   2975

Thr Arg Asp Pro Val Lys Ser Gln Ser Lys Ser Asn Thr Ser Leu Pro
    2980   2985   2990

Pro Leu Pro Phe Lys Arg Gly Gly Gly Lys Asp Gly Ser Val Thr Gly
    2995   3000   3005

Thr Lys Arg Leu Arg Cys Met Pro Ala Pro Glu Glu Ile Val Glu Glu
  3010   3015   3020

Leu Pro Ala Ser Lys Lys Gln Arg Val Ala Pro Arg Ala Arg Gly Lys
3025   3030   3035   3040

Ser Ser Glu Pro Val Val Ile Met Lys Arg Ser Leu Arg Thr Ser Ala
    3045   3050   3055

Lys Arg Ile Glu Pro Ala Glu Glu Leu Asn Ser Asn Asp Met Lys Thr
    3060   3065   3070

Asn Lys Glu Glu His Lys Leu Gln Asp Ser Val Pro Glu Asn Lys Gly
    3075   3080   3085

Ile Ser Leu Arg Ser Arg Arg Gln Asp Lys Thr Glu Ala Glu Gln Gln
  3090   3095   3100

Ile Thr Glu Val Phe Val Leu Ala Glu Arg Ile Glu Ile Asn Arg Asn
3105   3110   3115   3120

Glu Lys Lys Pro Met Lys Thr Ser Pro Glu Met Asp Ile Gln Asn Pro
    3125   3130   3135

Asp Asp Gly Ala Arg Lys Pro Ile Pro Arg Asp Lys Val Thr Glu Asn
    3140   3145   3150

Lys Arg Cys Leu Arg Ser Ala Arg Gln Asn Glu Ser Ser Gln Pro Lys
　　　3155　　　　　3160　　　　　3165

Val Ala Glu Glu Ser Gly Gly Gln Lys Ser Ala Lys Val Leu Met Gln
　　　3170　　　　　3175　　　　　3180

Asn Gln Lys Gly Lys Gly Glu Ala Gly Asn Ser Asp Ser Met Cys Leu
　3185　　　　　3190　　　　　3195　　　　　3200

Arg Ser Arg Lys Thr Lys Ser Gln Pro Ala Ala Ser Thr Leu Glu Ser
　　　3205　　　　3210　　　　　3215

Lys Ser Val Gln Arg Val Thr Arg Ser Val Lys Arg Cys Ala Glu Asn
　　　3220　　　　　3225　　　　　3230

Pro Lys Lys Ala Glu Asp Asn Val Cys Val Lys Lys Ile Thr Thr Arg
　　　3235　　　　　3240　　　　　3245

Ser His Arg Asp Ser Glu Asp Ile
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